

The primary objective of the Project and its ancillary facilities is to provide clean, renewable, solar-powered electricity, and to assist Southern California Edison (SCE) in meeting its legislatively mandated obligations under California's Renewable Portfolio Standard (RPS) Program. A secondary goal is to assist SCE in reducing its greenhouse gas emissions as required by the California Global Warming Solutions Act of 2006 (i.e., AB 32). The Project is a solar power electric generation project that has been developed and designed to conform to the requirements of the 20-year Power Purchase Agreement (PPA) between SCE and SES Solar Three, LLC and SES Solar Six, LLC (Applicant¹).

Under Phase I, Solar One will construct a solar power Project with a total capacity of 500MW that will connect to the SCE Pisgah Substation via a new 220-kilovolt (kV) interconnect transmission line that the Applicant will construct. Transmission studies indicate that the addition of this volume of electricity to the grid will require upgrades to the SCE Lugo-Pisgah No. 2 Transmission Line. Under Phase II, SCE has the option to take the additional power from Phase II, which will provide an additional capacity of 350MW to the SCE Pisgah Substation via the installation of a second circuit to the 220kV interconnect transmission line that the Applicant will construct during Phase I. The total Project capacity, when complete, will be 850MW.

2.1 UTILITIES' REQUIREMENT TO PROCURE RENEWABLE POWER

The main objective of the Project is to provide clean, renewable, solar-powered electricity to the state of California. The Project will assist the state in meeting the objectives mandated by the RPS Program and the California Global Warming Solutions Act of 2006. The Project will also address other local mandates that California's electric utilities have adopted for the provision of renewable energy. Policies set forth by the state's energy agencies and the senate bills relevant to the Project are the following:

- **2002:** Senate Bill 1078 established the RPS Program, which requires 20 percent of the electricity sold by regulated California utilities to be generated from renewable energy by 2017.
- **2003:** Energy Action Plan I accelerated the 20 percent deadline to 2010.
- **2005:** Energy Action Plan II examined a further goal of 33 percent by 2020. Assembly Bill 200 modified some requirements for electric corporations that serve customers outside of California and have 60,000 or fewer customer accounts in California.
- **2006:** Senate Bill 107 codified the accelerated 20 percent deadline into law.

To achieve these targets, the state's electric utilities, under the direction and oversight of the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC),

¹ In the early part of 2007 Stirling Energy Systems, Inc. (SES) submitted to the Bureau of Land Management (BLM) various Standard Form 299 (SF-299), Application for Transportation and Utility Systems and Facilities on Federal Land pursuant to 43 CFR 2804.12 for several large scale concentrating solar projects within the Bartsow Field Office of the BLM. Two of these applications were for SES Solar Three, LLC and SES Solar Six, LLC. The eastern portion of the Solar Six project area, which included the Pisgah Area of Critical Environmental Concern, was subsequently withdrawn from further consideration. However, reduction of this land area prevented development of an 850 megawatt (MW) solar field and additional land (from Solar Three, LLC) was required. The remaining portion of Solar Six, LLC and all of Solar Three, LLC were combined to acquire enough land area to develop an 850MW concentrating solar field. For the purposes of this filing, Solar Three, LLC and Solar Six, LLC are to be considered the Applicant for reasons previously stated. However, the name of the proposed project is the Solar One Project.

initiated several processes to competitively select renewable power projects that would minimize costs for their customers, minimize effects to the existing electricity system, and comply with state and federal permitting requirements. These utilities have signed several PPAs as a result of this procurement process. The Applicant has signed an initial 20-year contract with SCE under which SCE will buy all the energy produced from the first 500MW phase of the Project and has an option to purchase all the energy from the 350MW expansion phase as well.

To date, the CPUC has addressed its responsibilities in implementing the RPS in R.01-10-024, Order Instituting Rulemaking to Establish Policies and Cost Recovery Mechanisms for Generation Procurement and Renewable Resource Development, and R.06-02-012, Order Instituting Rulemaking That Is Specific to Renewables, which replaced earlier proceeding R.04-04-026.

In response to the RPS procurement process, there were 47 proposals submitted for renewable power and seven contracts were awarded. The Applicant investigated potential sites throughout California that were suitable for the development of a utility-scale solar electric generating facility, particularly those sites that were near transmission substations and in areas of good solar direct normal insolation.

The location selected for the Project is ideally suited for solar generation, given the high availability of solar energy at the site throughout the year, the level site topography, the ease of site access, the potentially minimal effect of the Project on environmental resources, and the availability of transmission capacity from nearby 220kV and 500kV transmission lines and the nearby SCE Pisgah Substation.

2.2 POWER PURCHASE AGREEMENT

Specific provisions of the PPA between SCE and the Applicant are described below.

- The initial contract term is 20 years.
- SCE commits to purchase all the output of the 850MW capacity solar power Project; the Project will consist of approximately 34,000 solar dish Stirling systems, also referred to as SunCatchers.
- The Project will be situated on approximately 8,230 acres of land in San Bernardino County, California, and will be constructed in two separate phases.

Under Phase I, Solar One will construct a solar power project with a total capacity of 500MW that will connect to the SCE Pisgah Substation via a new 230-kilovolt (kV) interconnect transmission line that the Applicant will construct. Under Phase II, SCE has the option to purchase an additional 350MW of electrical power. Transmission studies indicate that the addition of this volume of electricity (850MW) to the existing electrical grid will require upgrades to the SCE Lugo-Pisgah No. 2 220kV Transmission Line (approximately 65 miles) and the SCE Pisgah Substation, as discussed in Appendix EE. The total Project capacity, when complete in 2014, will be 850MW (gross).

2.3 GREENHOUSE GAS REDUCTION

Because global climate change poses a serious environmental and economic threat, California's governor and legislature have approved legislation to reduce California's contribution to greenhouse gas emissions. Under legislation approved in 2006 (Assembly Bill 32, Nunez, California Global Warming Solutions Act of 2006), the state established a goal of reducing its greenhouse gas emissions to 1990 levels by 2020. The California Air Resources Board, working with other agencies (including the CEC and CPUC), is developing a program that will achieve this goal. State agencies are currently considering a "cap and trade" system to reduce greenhouse gas emissions from several sectors of the California economy, particularly the electricity sector. Several western states, including California, have formed the Western Climate Initiative, which has the objectives of reducing regional greenhouse gas emissions to 15 percent below 2005 levels by 2020 and enacting a regional cap and trade system. Currently, this system is focused on the region's electric utilities. As of November 17, 2008 Governor Schwarzenegger signed Executive Order S-14-08 to streamline California's renewable energy project approval process and increase the state's Renewable Energy Standard to 33 percent renewable power by 2020.

From both a state and a regional perspective, the Project will contribute to reductions in greenhouse gas emissions from the electricity sector. The Project will provide 850MW of additional generating capacity and produce virtually no greenhouse gas emissions. The Project could also assist SCE in meeting a portion of its obligations under a state or western regional emissions reduction program. The nature of the Project technology is modular; therefore, as each 1.5MW group (60 SunCatchers) is installed, it can immediately commence power production. This characteristic means that the Project can start reducing the greenhouse gas emissions associated with meeting the electricity needs of SCE's customers shortly after installations begin.

2.4 PURPOSE AND NEED

2.4.1 Purpose of the Proposed Action

The primary purpose and need for the Project is to assist the state of California and SCE in meeting the RPS Program goals and reducing greenhouse gas emissions. Current state legislation calls on the state's electric utilities to produce 20 percent of their electricity from renewable sources by 2010 and reduce greenhouse gas emissions to 1990 levels by 2020.

The purpose of the Project is to:

- provide up to 850MW of renewable electric capacity under a 20-year PPA to SCE,
- contribute to the 20 percent (up to 33 percent by 2020) renewables RPS target set by California's governor and legislature,
- assist in reducing greenhouse gas emissions from the electricity sector,
- contribute to California's future electric power needs, and

- assist the California Independent System Operator (CAISO) in meeting its strategic goals for the integration of renewable resources, as listed in its Five-Year Strategic Plan for 2008-2012 (CAISO 2007).

2.4.2 Need for the Proposed Action

The primary need for the Project is to assist SCE to meet its legislative mandate under California's RPS Program. SCE selected the Project to help it procure 20 percent of its retail electricity sales with eligible sources of renewable energy by 2010. The Project will also assist the CAISO to implement its strategic initiative to integrate renewable energy into the electricity system, as listed in its Five-Year Strategic Plan (CAISO 2007).

The secondary need for the Project is to help the state meet its goal to reduce greenhouse gas emissions to 1990 levels by the year 2020. (Solar energy production emits virtually no carbon dioxide during operation.)

The Project will also help meet the need for additional energy supply, a need based on the steadily growing annual demand of the California energy market. As described in CAISO's Five-Year Strategic Plan for 2008–2012, California load growth is expected to average 1,000MW per year over the next 5 years.

2.4.3 Requested Federal Action

Federal law and the policy of the Bureau of Land Management (BLM) Barstow Field Office, California Desert District allow the use of public lands for development of renewable energy projects. Specifically, Section 211 of the Energy Policy Act of 2005 (119 Stat. 594, 660) and BLM's Solar Energy Development Policy, which was issued on 4 April 2007, establishes a framework to process applications for rights-of-way and directs the BLM to be responsive to solar energy project applicants while protecting the environment. The California Desert Conservation Area (CDCA) Plan and the Federal Land Policy Management Act of 1976 both recognize that the CDCA will be managed for multiple uses.

Under federal law, the BLM is responsible for processing requests for rights-of-way to construct power projects, their associated transmission lines, and other appurtenant facilities on the public land it administers. The Applicant has submitted Standard Form 299, Application for Transportation and Utility Systems and Facilities on Federal Lands, requesting that the BLM grant a right-of-way for access, construction, operation, maintenance, and termination to the approximately 8,230 acres of BLM-administered public land needed to construct the Project and related facilities. The approval of the Applicant's Standard Form 299 application will require a land use plan amendment to the 1980 CDCA Plan, as amended. The Applicant's request for right-of-way will also include the right to maintain access to the Project for the duration of the 20-year PPA. Separate consultation requirements and associated documentation are required for Section 106 of the National Historic Preservation Act and the Endangered Species Act (Section 7) consultations associated with the Project. The BLM will complete these consultations during the process outlined in the Memorandum of Understanding (MOU) developed between the BLM and CEC staff (see Appendix A, Memorandum of Understanding). The BLM is also responsible for Native American consultation, including government-to-government consultation. The result of this cooperative effort between the BLM and the CEC will be a coordinated public

participation process and joint environmental documents that fully meet the BLM's requirements.

In processing the application, the BLM will comply with the requirements of NEPA, which requires that federal agencies reviewing projects under their jurisdiction consider the environmental impacts associated with their construction, operation, maintenance, and decommissioning. Under the MOU developed between the BLM and CEC staff on the review of proposed solar electric generating projects (see Appendix A, Memorandum of Understanding), these NEPA requirements will be accomplished in part for the Project through preparation and filing of a joint Environmental Impact Statement/Final Staff Assessment (EIS/FSA) document (i.e., the CEC's preliminary and FSA will be prepared in conjunction with the BLM's draft and final EIS). In accordance with the MOU, the EIS/FSA document will address the impacts of the Solar One, and the proposed land use plan amendment to the 1980 CDCA Plan, as amended.

2.5 REFERENCES

CAISO (California Independent System Operator). 2007. Five-Year Strategic Plan for 2008-2012.

California Public Utilities Commission, "Renewable Energy," web site
www.cpuc.ca.gov/static/energy/electric/renewableenergy.

California Energy Commission, *Renewable Energy Program: Overall Program Guidebook*, CEC-300-2006-008-F (Sacramento, CA, April 2006), web site
www.energy.ca.gov/2006publications/CEC-300-2006-008.